



## Installation of Apache OpenMeetings 3.0.x on Centos 7

This tutorial is made based on fresh installations of

**CentOS-6.7-x86\_64-LiveCD.iso**

It is tested with positive result. We will use the Apache's binary version OpenMeetings 3.0.7 stable, that is to say will suppress his compilation. It is done step by step.

27-9-2015

Starting...

**1)**

At first place we must modify Selinux level security for the installation:

`sudo gedit /etc/selinux/config`

...modify:

`SELINUX=enforcing`

..to

`SELINUX=permissive`

2)

----- **Update the System** -----

Update operative system:

`yum update -y`

...and reboot for the kernel changes and the new **Selinux** configuration take effect.:

`reboot`

3)

----- **ADD Repos** -----

### Add the **Epel** repository ###

For Centos 6.x **32 bit**

`cd /opt`

`wget http://dl.fedoraproject.org/pub/epel/6/i386/epel-release-6-8.noarch.rpm`

`rpm -Uvh epel-release-6-8.noarch.rpm`

Para CentOS 6.x **64 bits**:

`cd /opt`

`wget http://dl.fedoraproject.org/pub/epel/6/x86_64/epel-release-6-8.noarch.rpm`

`rpm -Uvh epel-release-6-8.noarch.rpm`

### Añadimos el repositorio **linuxtech** (32 y 64 bits) ###

...para la instalación de vlc, reproductor de video para las futuras grabaciones que hagamos en OpenMeetings.:

`cd /opt`

`wget http://pkgrepo.linuxtech.net/el6/release/linuxtech.repo`

`cp linuxtech.repo /etc/yum.repos.d`

### **Adobe** repo **32 bit** ## For Flash Player.

```
rpm -ivh http://linuxdownload.adobe.com/adobe-release/adobe-release-i386-1.0-1.noarch.rpm
```

```
rpm --import /etc/pki/rpm-gpg/RPM-GPG-KEY-adobe-linux
```

### Adobe repo 64-bit ### For Flash player.

```
rpm -ivh http://linuxdownload.adobe.com/adobe-release/adobe-release-x86\_64-1.0-1.noarch.rpm
```

```
rpm --import /etc/pki/rpm-gpg/RPM-GPG-KEY-adobe-linux
```

```
yum update
```

4)

#### ----- Installation of Java -----

Java is necessary to work Red5-OpenMeetings. Should install Open Java 1.8 and the plugin icedtea-web:

```
sudo yum install java-1.8.0-openjdk icedtea-web
```

Maybe are installed various versions of Java. Please select the 1.8 version:

```
update-alternatives --config java
```

And to see if the selected version is active: `java -version`

5)

#### ----- Installation of LibreOffice -----

OpenMeetings will need LibreOffice to convert to pdf the uploaded office files.

Should install it:

```
yum -y install libreoffice
```

6)

#### ----- Installation of necessary packages and libraries -----

Should install packages and libraries we'll need later:

(In only one line with a space)

```
yum install -y libjpeg libjpeg-devel ghostscript freetype freetype-devel unzip gcc gcc-c++ ncurses  
ncurses-devel make zlib zlib-devel libtool bison bison-devel openssl-devel bzip2 bzip2-devel file-  
roller git autoconf automake pkgconfig tomcat-native nmap
```

7)

----- Installation ImageMagick, Sox and Swftools -----

**ImageMagick** will work with images files. Should install it and some more libraries:

```
yum install -y ImageMagick giflib giflib-devel giflib-utils
```

**Sox** work the sound. Will compile and install it:

```
cd /opt
```

```
wget http://sourceforge.net/projects/sox/files/sox/14.4.2/sox-14.4.2.tar.gz
```

```
tar xzvf sox-14.4.2.tar.gz
```

```
cd /opt/sox-14.4.2
```

```
./configure
```

```
make && make install
```

**Swftools**\_work converting to swf (flash file) the uploaded files. Don't use a newer version swftools file. Don't have pdf2swf.

```
cd /opt
```

```
wget http://www.swf-tools.org/swf-tools-2013-04-09-1007.tar.gz
```

```
tar xzvf swf-tools-2013-04-09-1007.tar.gz
```

```
cd /opt/swf-tools-2013-04-09-1007
```

```
./configure --libdir=/usr/lib --bindir=/usr/bin
```

```
make
```

```
make install
```

```
cd /opt
```

8)

----- Installation of Adobe flash player -----

OpenMeetings even need Adobe Flash Player for rooms.

```
yum install -y flash-plugin
```

9)

---- Installation of Jodconverter ----

Jodconverter work to convert uploaded files.

cd /opt

wget <http://jodconverter.googlecode.com/files/jodconverter-core-3.0-beta-4-dist.zip>

unzip jodconverter-core-3.0-beta-4-dist.zip

10)

----- Compilation of FFmpeg -----

FFmpeg will work with video. Will install a libraries and vlc to play the recordings.

`yum install -y glibc alsa-lib-devel faac faac-devel faad2 faad2-devel gsm gsm-devel imlib2 imlib2-devel lame-devel vorbis-tools theora-tools libvpx-devel vlc`

This ffmpeg compilation is based on this url: (4-7-2015)

<https://trac.ffmpeg.org/wiki/CompilationGuide/Centos>

As it is, the compilation in this url gives an error when compiling x264 (second step). After resolve that error and finish the compilation, gives an error about ogg when recording on OpenMeetings.

Then i supress one step in the url and add some ones more. And now works properly without error, and audio-video is synchronized. Ogg right.

Also i made a script to download, compile and install ffmpeg on Centos.

It is tested and is Ok.

During the x265 compilation, will look like stop for about 8 minutes in a text that say: **41%** Don't worry, everything is going right. Be patient.

When the compilation is finished will appear a text:

FFMPEG Compilation and Installation Finished!

Please download the script and read inside the zip the instructions for running it. To download:

[https://cwiki.apache.org/confluence/download/attachments/27838216/ffmpeg\\_script\\_compile\\_Centos.zip?version=3&modificationDate=1443531153065&api=v2](https://cwiki.apache.org/confluence/download/attachments/27838216/ffmpeg_script_compile_Centos.zip?version=3&modificationDate=1443531153065&api=v2)

After the compilation is finished you can go to **step 11**

But if you prefer copy and paste, i **advise not to do it**, i leave the text script:

```
sudo gedit /opt/ffmpeg-centos.sh
```

...copy the green text **from here**:

```
# Script ffmpeg Centos
# Alvaro Bustos. Thanks to Hunter
# 4-7-2015
# Install libraries
yum install -y autoconf automake cmake freetype-devel gcc gcc-c++ git libtool make mercurial
nasm pkgconfig zlib-devel

# Install yasm from repos
yum install -y yasm

# Create a temporary directory for sources.
SOURCES=$(mkdir ~/ffmpeg_sources)
cd ~/ffmpeg_sources

# Download the necessary sources.
git clone --depth 1 git://git.videolan.org/x264
hg clone https://bitbucket.org/multicoreware/x265
git clone --depth 1 git://git.code.sf.net/p/opencore-amr/fdk-aac
curl -L -O http://downloads.sourceforge.net/project/lame/lame/3.99/lame-3.99.5.tar.gz
git clone http://git.opus-codec.org/opus.git
curl -O http://downloads.xiph.org/releases/ogg/libogg-1.3.2.tar.gz
curl -O http://downloads.xiph.org/releases/vorbis/libvorbis-1.3.5.tar.gz
wget http://downloads.xiph.org/releases/theora/libtheora-1.1.1.tar.gz
git clone --depth 1 https://chromium.googlesource.com/webm/libvpx.git
git clone --depth 1 git://source.ffmpeg.org/ffmpeg

# Unpack files
for file in `ls ~/ffmpeg_sources/*.tar.*`; do
tar -xvf $file
done

cd x264
./configure --prefix="$HOME/ffmpeg_build" --bindir="$HOME/bin" --enable-static && make &&
make install && make distclean; cd ..

cd x265/build/linux
cmake -G "Unix Makefiles" -DCMAKE_INSTALL_PREFIX="$HOME/ffmpeg_build"
-DENABLE_SHARED:bool=off ..../source && make && make install; cd ~/ffmpeg_sources

cd fdk-aac
autoreconf -fiv && ./configure --prefix="$HOME/ffmpeg_build" --disable-shared && make &&
make install && make distclean; cd ..
```

```
cd lame-*/
./configure --prefix="$HOME/ffmpeg_build" --bindir="$HOME/bin" --disable-shared --enable-nasm && make && make install && make distclean; cd ..

cd opus
autoreconf -fiv && ./configure --prefix="$HOME/ffmpeg_build" --disable-shared && make && make install && make distclean; cd ..

cd libogg-*/
./configure --prefix="$HOME/ffmpeg_build" --disable-shared && make && make install && make distclean; cd ..

cd libvorbis-*/
LDFLAGS="-L$HOME/ffmpeg_build/lib" CPPFLAGS="-I$HOME/ffmpeg_build/include"
./configure --prefix="$HOME/ffmpeg_build" --with-ogg="$HOME/ffmpeg_build" --disable-shared && make && make install && make distclean; cd ..

cd libtheora-*/
./configure --prefix="$HOME/ffmpeg_build" --with-ogg="$HOME/ffmpeg_build" --disable-examples --disable-shared --disable-sdltest --disable-vorbistest && make && make install; cd ..

cd libvpx
./configure --prefix="$HOME/ffmpeg_build" --disable-examples && make && make install && make clean; cd ..

cd ffmpeg
PKG_CONFIG_PATH="$HOME/ffmpeg_build/lib/pkgconfig" ./configure
--prefix="$HOME/ffmpeg_build" --extra-cflags="-I$HOME/ffmpeg_build/include" --extra-ldflags="-L$HOME/ffmpeg_build/lib" --bindir="$HOME/bin" --pkg-config-flags="--static"
--enable-gpl --enable-nonfree --enable-libfdk_aac --enable-libfreetype --enable-libmp3lame
--enable-libopus --enable-libvorbis --enable-libvpx --enable-libx264 --enable-libx265 --enable-libtheora && make && make install && make distclean && hash -r; cd ..

cd ~/bin
cp ffmpeg ffprobe ffserver lame x264 /usr/local/bin

cd ~/ffmpeg_build/bin
cp x265 /usr/local/bin

echo "FFMPEG Compilation and Installation Finished!"
```

**...to here.**

Concede permission of execution:

```
chmod +x /opt/ffmpeg-centos.sh
```

```
cd /opt
```

Now be connected to Internet, run the script and wait some long minutes while the compilation:

[./ffmpeg-centos.sh](#)

Remember the warning about 8 minutes in a false stop...

All the compiled files will be installed on: **/usr/local/bin**

**11)**

**----- Installation MariaDB database server -----**

We build a file-repository to download MariaDB data server.

For Centos 6.x **32 bits**:

[sudo gedit /etc/yum.repos.d/MariaDB.repo](#)

...y copiamos en su interior el siguiente texto:

```
[mariadb]
name = MariaDB
baseurl = http://yum.mariadb.org/10.0/centos6-x86
gpgkey=https://yum.mariadb.org/RPM-GPG-KEY-MariaDB
gpgcheck=1
```

For Centos 6.x **64 bits**:

[sudo gedit /etc/yum.repos.d/MariaDB.repo](#)

...y copiamos en su interior el siguiente texto:

```
[mariadb]
name = MariaDB
baseurl = http://yum.mariadb.org/10.0/centos6-amd64
gpgkey=https://yum.mariadb.org/RPM-GPG-KEY-MariaDB
gpgcheck=1
```

We install it:

[yum -y install MariaDB-server MariaDB-client](#)

...do a backup of the configuration file; make a newone:

```
mv /etc/my.cnf /etc/my.bak  
cp /usr/share/mysql/my-medium.cnf /etc/my.cnf
```

...and run the server:

```
service mysql start
```

Give a password to mariadb root :

```
mysqladmin -u root password new-password
```

Make a database for OpenMeetings:

```
mysql -u root -p
```

...will ask for the root password we does just now:

```
CREATE DATABASE open307 DEFAULT CHARACTER SET 'utf8';
```

...now do a new user with a password:

```
CREATE USER 'hola'@'localhost' IDENTIFIED BY '123456';
```

...and give privileges to this user on the open307 database:

```
GRANT ALL PRIVILEGES ON open307.* TO 'hola'@'localhost' WITH GRANT OPTION;
```

```
FLUSH PRIVILEGES;
```

```
quit
```

open307 ..... name of the database  
hola ..... user for that database  
123456 ..... password of that user

To start, restart or stop mariadb:

```
systemctl start mariadb.service  
systemctl restart mariadb.service  
systemctl stop mariadb.service
```

12)

----- Installation of OpenMeetings -----

We'll install OpenMeetings in /opt/red5307. All the following information will be based on this directory.

Call to our folder of installation red5307

Make the folder:

```
mkdir /opt/red5307
```

```
cd /opt/red5307
```

...and download the OpenMeetings file:

```
wget http://apache.rediris.es/openmeetings/3.0.7/bin/apache-openmeetings-3.0.7.zip
```

```
unzip apache-openmeetings-3.0.7.zip
```

...save the unloaded file to /opt:

```
mv apache-openmeetings-3.0.7.zip /opt
```

Do to nobody owner of the whole OpenMeetings installation folder:

```
chown -R nobody /opt/red5307
```

Unload and install the connector between OpenMeetings and MariaDB:

```
cd /opt
```

```
wget http://repo1.maven.org/maven2/mysql/mysql-connector-java/5.1.36/mysql-connector-java-5.1.36.jar
```

...and copy it to where must be:

```
cp /opt/mysql-connector-java-5.1.36.jar /opt/red5307/webapps/openmeetings/WEB-INF/lib
```

Now we are going to configure OpenMeetings for our database in MariaDB:

```
cd /opt/red5307/webapps/openmeetings/WEB-INF/classes/META-INF
```

```
mv persistence.xml persistence.xml-ori
```

```
mv mysql_persistence.xml persistence.xml
```

```
sudo gedit /opt/red5307/webapps/openmeetings/WEB-INF/classes/META-INF/persistence.xml
```

...to modify on **line 78**

, Url=jdbc:mysql://localhost:3306/openmeetings

...to

, Url=jdbc:mysql://localhost:3306/**open307**

...it is the name of the database that we did initially.

... to modify on **line 83**

, Username=root

...to

, Username=**hola**

...is the user that we did initially for the database.

...to modify on **line 84**

,, Password=" />

...to

, Password=**123456**" />

...it is the password that we did initially for the user "hola" in the database.

Logically if initially you chose another name and password for the database, you will have to change them here.

We protect the access to the file:

chmod 640 /opt/red5307/webapps/openmeetings/WEB-INF/classes/META-INF/persistence.xml

**13)**

----- Script to launch red5-OpenMeetings -----

Build a script to start and stop red5-OpenMeetings, that we'll call red5:

cd /opt

sudo gedit /etc/init.d/red5

...copy and paste the text **from here**:

```

#
#!/bin/sh -e
#
# Startup script for Red5

export RED5_HOME=/opt/red5307

start_red5="$RED5_HOME/red5.sh start"
stop_red5="$RED5_HOME/red5-shutdown.sh stop"

start() {
    echo -n "Starting Red5: "
    ${start_red5} &
    echo "done."
}

stop() {

echo -n "Shutting down Red5: "
${stop_red5}
echo "done."
}

case "$1" in
    start)
        start
        ;;
    stop)
        stop
        ;;
    restart)
        stop
        sleep 10
        start
        ;;
    *)
        echo "Usage: $0 {start|stop|restart}"
esac

exit 0

```

**...to here.**

If you made the installation in any other path, can modify the line:

RED5\_HOME=/opt/red5307

...to

RED5\_HOME=/your-path-installation

Concede permission of execution to the script:

`chmod +x /etc/init.d/red5`

14)

Restart mariadb:

`systemctl restart mariadb.service`

...and start red5-OpenMeetings, maybe in other window shell:

`/etc/init.d/red5 start`

...wait 10 seconds *at least* in order that red5 it is running completely, and later can go to:

<http://localhost:5080/openmeetings/install>

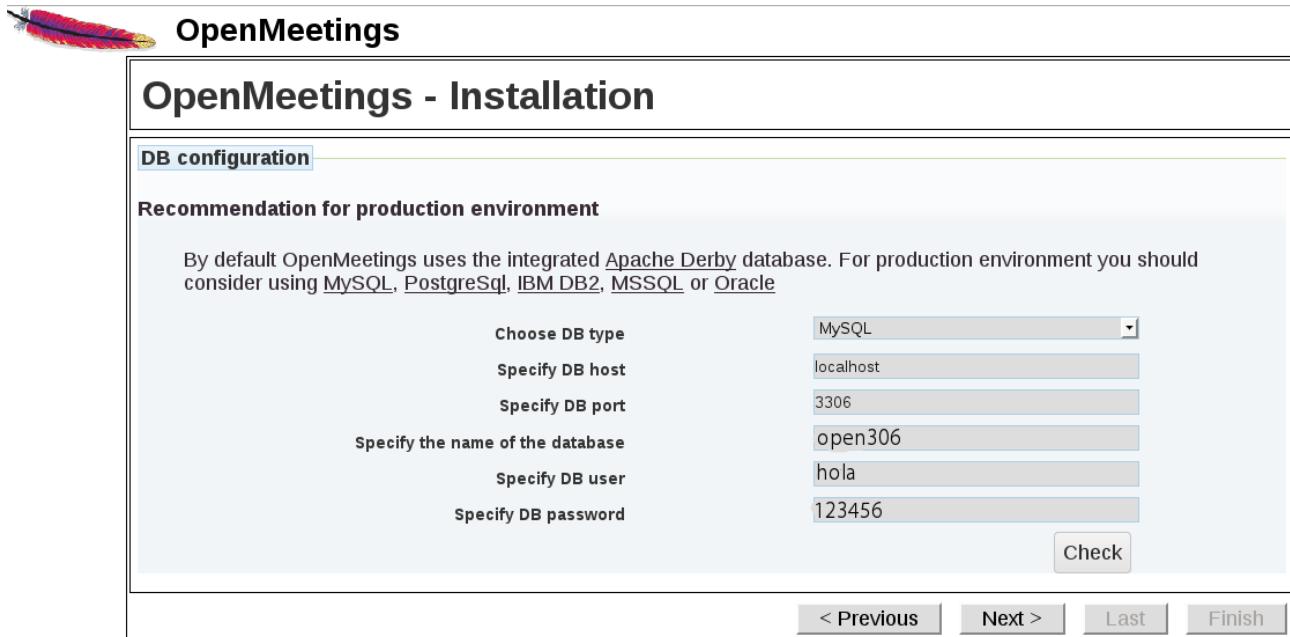
...there will appear a page similar to this one:

**OpenMeetings**

## OpenMeetings - Installation

1. **Enabling Image Upload and import to whiteboard**
  - Install **ImageMagick** on the server, you can get more information on <http://www.imagemagick.org> regarding installation. The instructions for installation can be found there <http://www.imagemagick.org/script/binary-releases.php>, however on most linux systems you can get it via your favorite package managers (apt-get it)
2. **Enabling import of PDFs into whiteboard**
  - Install **GhostScript** on the server, you can get more information on <http://pages.cs.wisc.edu/~ghost/> regarding installation. The instructions for installation can be found there, however on most linux systems you can get it via your favorite package managers (apt-get it).
  - Install **SWFTools** on the server, you can get more information on <http://www.swf-tools.org/> regarding installation. Some of the Linux distributions already have it in their package manager see <http://packages.debian.org/unstable/utils/swf-tools>, the recommended version of **SWFTools** is 0.9 as prior version have a bug that does lead to wrong object dimensions in the Whiteboard
3. **Enabling import of .doc, .docx, .ppt, .pptx, ... all Office Documents into whitebaord**
  - **OpenOffice-Service** started and listening on port 8100, see [OpenOfficeConverter](#) for details
4. **Enabling Recording and import of .avi, .flv, .mov and .mp4 into whiteboard**
  - Install **FFMpeg**. You should get FFMPEG in an up to date copy! For Windows you can download a Build for example from <http://ffmpeg.arrozcru.org/builds/> Linux or OSx Users should be able to use one of the various Installation Instructions on the Web. You need to enable libmp3lame!
  - Install **GAK** <http://www.azulweb.com/gak/> You should install GAK in a user data folder GAK 1.0 would NOT work!

...clic on **Next** (bottom) and will show the database configuration we made:



The screenshot shows the 'DB configuration' step of the OpenMeetings installation wizard. It includes a 'Recommendation for production environment' section and a form for specifying database details. The form fields are as follows:

Choose DB type	MySQL
Specify DB host	localhost
Specify DB port	3306
Specify the name of the database	open306
Specify DB user	hola
Specify DB password	123456

Buttons at the bottom include 'Check', '< Previous', 'Next >', 'Last', and 'Finish'.

...clic **Next** again:



The screenshot shows the 'Userdata' step of the OpenMeetings installation wizard. It includes fields for Username, Userpass, EMail, and User Time Zone, along with an 'Organisation(Domains)' section for Name. Buttons at the bottom include '< Previous', 'Next >', 'Last', and 'Finish'.

...here we must to introduce necessarily, to be able to continue, the following:

**Username** = a-name ...this user will be administrator.

**Userpass** = a-password ...for the previous user.

**Email** = email-adress ...of the previous user.

**User Time Zone** = Country where is this server

**Name** = example-openmeetings ...group name to choose.

Go below completely of the page and touch the button **Last** and will appear:



## OpenMeetings

### OpenMeetings - Installation

Please click "Finish" button to start installation!

< Previous | Next > | Last | **Finish**

Clic **Finish**...wait a seconds untill the tables are fill in the database.

When has concluded, this another page will appear:



## OpenMeetings

### OpenMeetings - Installation

[Enter the Application](#)

If your Red5-Server runs on a different Port or on a different domain  
[alter the config values of the client](#)

**Mailing list**

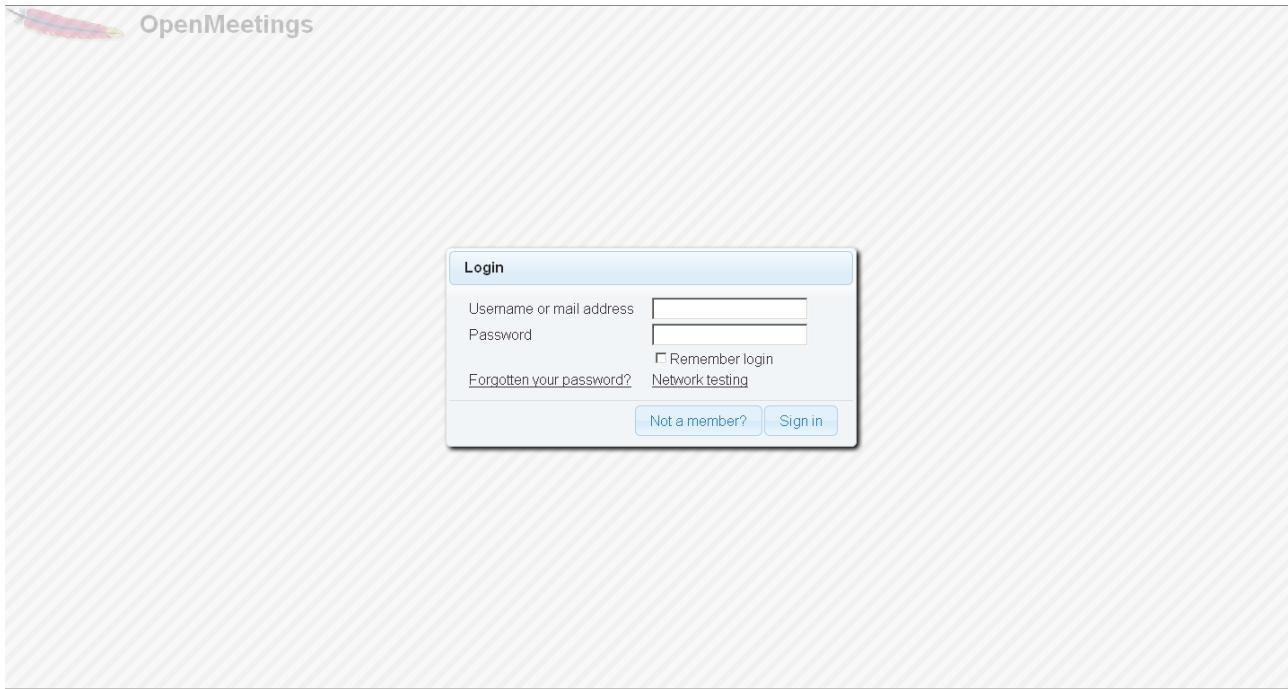
<http://openmeetings.apache.org/mail-lists.html>

There are some companies that also offer commercial support for Apache OpenMeetings:

<http://openmeetings.apache.org/commercial-support.html>

< Previous | Next > | Last | Finish

...clic on **Enter the Application**...and you should see OpenMeetings's entry:



Introduce the user's name and the password that you have chosen during the installation, press **Sign in** and...

**...Congratulations!**

The next time that you like to accede OpenMeetings, will be:

<http://localhost:5080/openmeetings>

Remember to open in the server the three following ports:

**5080    1935    8088**

...in order that it could accede to OpenMeetings from other machines.

**15)**

---- **OpenMeetings's configuration** ----

Once you acced to OpenMeetings go to:

**Administration → Configuration**

The screenshot shows the OpenMeetings web interface. At the top, there is a navigation bar with links for Home, Rooms, Recordings, and Administration. Below the navigation bar, the "Welcome" section displays a user profile placeholder (a question mark icon) and a greeting message: "Hello firstname lastname". A red arrow points upwards from the bottom of the "Welcome" section towards the navigation bar. To the right of the "Welcome" section, there is a sidebar titled "How to" with three numbered steps: 1. Press, 2. C, and 3. A link to "OpenMeetings documentation" is also present. In the main content area, there is a "Help and support" section with links to the project website, user mailing list, and network testing. Below that, the "My rooms" section lists two rooms: "My conference room (for 1-16 users)" and "My webinar room (for 1-120 users)". Each room entry has an "Enter" button. To the right of these entries is a panel titled "Click on a room to get the room details" which currently displays the "Room #" and "Comment" fields.

...introduce the parameters for the conversion of files, the audio and the video:

The screenshot shows the "Administration" configuration page. At the top, there is a search bar and a toolbar with icons for adding, deleting, and modifying configurations. The main area is a table titled "Configuration" with columns for ID, Key, and Value. The table lists various configuration parameters, such as "mail.smtp.connection.timeout", "application.name", and "rss\_feed1". One row, "ffmpeg\_path", is selected and highlighted with a blue background. A red arrow labeled "1" points to this selected row. To the right of the table, a detailed view of the "ffmpeg\_path" configuration is shown in a modal window. The modal window contains fields for "Key" (set to "ffmpeg\_path"), "Value" (empty), "Last update" (empty), "Updated by" (empty), and "Comment" (set to "Path To FFMPEG"). A red arrow labeled "2" points to the "Comment" field.

ID	Key	Value
12	mail.smtp.connection.timeout	30000
13	mail.smtp.timeout	30000
14	application.name	OpenMeetings
15	default_lang_id	1
16	swftools_zoom	100
17	swftools_jpegquality	85
18	swftools_path	
19	imagemagick_path	
20	sox_path	
21	ffmpeg_path	
22	office.path	
23	jod.path	/opt/jod/lib http://mail-archives.apache.org /mod_mbox/openmeetings-user/?format=atom
24	rss_feed1	http://mail-archives.apache.org /mod_mbox/openmeetings-dev/?format=atom
25	rss_feed2	http://mail-archives.apache.org /mod_mbox/openmeetings-dev/?format=atom
26	sendEmailAtRegister	0
27	sendEmailWithVerificationCode	0
28	default_export_font	TimesNewRoman
29	default.rpc.userid	1
30	application.base.url	http://localhost:5080 /openmeetings/
31	red5sip.enable	no
32	red5sip.room_prefix	400

Clic on: **swftools\_path**...and to the right in Value type: [/usr/bin](#)

Clic on: **imagemagick\_path**...and to the right in Value type: [/usr/bin](#)

Clic on: **sox\_path**...and to the right in Value type: [/usr/local/bin](#)

Clic on: **ffmpeg\_path**...and to the right in Value type: [/usr/local/bin](#)

Clic on: **office.path**...and to the right in **Value** type (**32 bits**): [/usr/lib/libreoffice](#)

Clic on: **office.path**...and to the right in **Value** type (**64bits**): [/usr/lib64/libreoffice](#)

Clic on: **jod.path**...and to the right in Value type: [/opt/jodconverter-core-3.0-beta-4/lib](#)

Now there is OpenMeetings ready to work rightly.

We are going to remove files and folders that already do not serve us, if you do not want to save them.

```
rm -f /opt/jodconverter-core-3.0-beta-4-dist.zip
```

```
rm -f /opt/mysql-connector-java-5.1.36.jar
```

```
rm -f /opt/sox-14.4.2.tar.gz
```

```
rm -f -R /opt/sox-14.4.2
```

And this is all.

---

If you have some doubt or question, please raise it in the Apache OpenMeetings forums:

<http://openmeetings.apache.org/mail-lists.html>

Thank you

Alvaro Bustos